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09/749,089	03/12/2001	Gary Goldman	81862.P217	3260

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EXAMINER

WILSON, ROBERT W

ART UNIT	PAPER NUMBER
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2661

DATE MAILED: 08/03/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/749,089

Applicant(s)

GOLDMAN ET AL.

Examiner

Robert W Wilson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 12 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-10, 12-16, 18-22 and 24 is/are rejected.
- 7) ☒ Claim(s) 5, 11, 17 and 23 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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### DETAILED ACTION

**1.0** The application of Goldman et. al. entitled "VIRTUAL CONNECTION SERVICE CACHE FOR FILLING AVAILABLE BANDWIDTH" filed on 3/12/2001 without foreign priority was examined. Claims 1-24 are pending.

### Drawings

**2.0** The drawings in this application are objected to by the Draftsperson as informal. Any drawing corrections requested, but not made in the prior application should be repeated in this application if such changes are still desired. If the drawings were changed and approved during the prosecution of the prior application, a petition may be filed under 37 CFR 1.182 requesting the transfer of such drawings, provided the parent application has been abandoned. However, a copy of the drawings as originally filed must be included in the 37 CFR 1.60 application papers to indicate the original content.

### *Claim Rejections - 35 USC § 103*

**3.0** The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**4.0** **Claims 1-4, 6-10, 12-16, 18-22, & 24** are rejected under 35 U.S.C. 103(a) as being unpatentable over Nguyen et. al. (U.S. Patent No.; 5,712,851)

Referring to **Claim 1**, Nguyen et. al. teaches : A method (Fig1) comprising:

Calendar a plurality of virtual connections for processing, each virtual connection calendar to a particular time period such that the virtual connections are not calendar to at least one time

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period (The scheduler schedules or calendars by inserting VCID into the TIME SLOT RING per Fig 1 wherein the connections apply to different time periods)

Storing a plurality of virtual connection addresses in cache memory (The applicant broadly claims "cache memory". The examiner interprets that the VCIDs being stored into the TIME SLOT RING performs the same function as a cache memory per Fig 1)

Processing virtual connection corresponding to one of the plurality of virtual connection addresses during one of the at least one time periods (VCIDs are used to process the VCs via pointers to VC TABLE per Fig 1. Each connection representing a different time period.)

Nguyen does not expressly call for: calendaring but teaches scheduling

It would have been obvious to one of ordinary skill in the art at the time of the invention that scheduling performs the same function as calendaring.

**In Addition Nguyen teaches:**

Regarding **Claim 2**, wherein the most recent processed calendared virtual connections is stored in the cache memory (The most recently scheduling VCID associated with the VC is inserted in the TIME SLOT RING which performs the same function as the cache memory per Fig 1)

Regarding **Claim 3**, wherein virtual connections corresponding to the virtual connection addresses stored in the cache memory are processed in a round robin fashion (The TIME SLOT Ring processes VCID or virtual connections in a round robin fashion as shown per Fig 1)

Regarding **Claim 4**, further comprising: processing a calendared virtual connection, and evaluation the processed calendared virtual connection such that if the process calendared virtual connection meets evaluation criteria the address of processed calendared virtual connection is added to the cache memory (The applicant broadly claims "evaluation criteria". The examiner interprets that the scheduler determines or evaluates whether a VC qualifies for a time slot per Col. 2 lines 59-64 or "evaluation criteria". )

Regarding **Claim 6**, wherein the address of a processed calendared virtual connection meeting the evaluation criteria is stored in a first cache memory (The applicant broadly claims "evaluation criteria". The examiner interprets that the scheduler determines or evaluates whether a VC qualifies for a time slot per Col. 2 lines 59-64 as "evaluation criteria". If the VC meets the criteria then the associated VCID is inserted into the TIME SLOT RING per Fig 1)

Referring to **Claim 7**, Nguyen et. al. teaches: An apparatus (Fig1) comprising:

Means for calendaring a plurality of virtual connections for processing, each virtual connection calendared to a particular time period such that the virtual connections are not calendared to at

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least one time period (The scheduler or processor schedules or calendars in VCID into the TIME SLOT RING per Fig 1 wherein the connections apply to different time periods)

Means for storing a plurality of virtual connection addresses in a cache memory (The applicant broadly claims "cache memory". The examiner interprets that the VCIDs are stored into the TIME SLOT RING which performs the same function as a cache memory or means per Fig 1)

Means for processing virtual connection corresponding to one of the plurality of virtual connection addresses during one of the at least one time periods (The scheduler provides the means for VCIDs to process the VCs based upon pointers to VC TABLE per Fig 1. Each representing a slot in the ring represents different time period.)

Nguyen does not expressly call for: calendaring but teaches scheduling

It would have been obvious to one of ordinary skill in the art at the time of the invention that scheduling performs the same function as calendaring.

**In Addition Nguyen teaches:**

Regarding **Claim 8**, wherein the most recent processed calendared virtual connections is stored in the cache memory (The most recently scheduled VCID associated with the VC is inserted in the TIME SLOT RING; thus, performing the same function as the cache memory per Fig 1)

Regarding **Claim 9**, wherein virtual connections corresponding to the virtual connection addresses stored in the cache memory are processed in a round robin fashion (The TIME SLOT Ring processes VCID or virtual connections in a round robin fashion per Fig 1)

**Regarding Claim 10**, means for evaluating the processed calendared virtual connection such that if the processed calendared virtual connection meets evaluation criteria the address of the processed calendared virtual connection is added to the cache memory (The applicant broadly claims "evaluation criteria". The examiner interprets that the scheduler or means for evaluating determines or evaluates whether a VC qualifies for a time slot per Col. 2 lines 59-64 or "evaluation criteria". )

Regarding **Claim 12**, wherein the address of a processed calendared virtual connection meeting the evaluation criteria is stored in a first cache memory (The applicant broadly claims "evaluation criteria". The examiner interprets that the scheduler determines or evaluates whether a VC qualifies for a time slot per Col. 2 lines 59-64 or "evaluation criteria". If the VC meets the criteria then the associated VCID is inserted into the TIME SLOT RING per Fig 1)

Referring to **Claim 13**, Nguyen et. al. teaches all of the limitation of claim 1. It is within the level of one skilled in the art to implement all of the limitations of claim 1 in software or executable instructions. It would have been obvious to one of ordinary skill in the art at the time

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of the invention to store the executable instructions on a computer readable medium or machine readable medium so that can be executed in a processor.

**In Addition Nguyen teaches:**

Regarding **Claim 14**, wherein the most recent processed calendared virtual connections is stored in the cache memory (The most recently scheduling VCID associated with the VC is inserted in the TIME SLOT RING which performs the same function as the cache memory per Fig 1. It is within the level of one skilled in the art to implement all of the limitations of claim 14 in software or executable instructions. It would have been obvious to one of ordinary skill in the art at the time of the invention to store the executable instructions on a computer readable medium or machine readable medium so that can be executed in a processor)

Regarding **Claim 15**, wherein virtual connections corresponding to the virtual connection addresses stored in the cache memory are processed in a round robin fashion (The TIME SLOT Ring processes VCID or virtual connections in a round robin fashion per Fig 1. It is within the level of one skilled in the art to implement all of the limitations of claim 15 in software or executable instructions. It would have been obvious to one of ordinary skill in the art at the time of the invention to store the executable instructions on a computer readable medium or machine readable medium so that can be executed in a processor)

Regarding **Claim 16**, further comprising: processing a calendar virtual and evaluating the processed calendared virtual connection such that if the processed calendared virtual connection meets evaluation criteria the address of the processed calendared virtual connection is added to the cache memory (The applicant broadly claims "evaluation criteria". The examiner interprets that the scheduler determines whether a VC qualifies for a time slot per Col. 2 lines 59-64 as "evaluation criteria". If the VC meets the criteria then the associated VCID is inserted into the TIME SLOT RING per Fig 1)

Regarding **Claim 18**, wherein the address of a processed calendared virtual connection meeting the evaluation criteria is stored in a first cache memory (The applicant broadly claims "evaluation criteria". The examiner interprets that the scheduler determines or evaluates whether a VC qualifies for a time slot per Col. 2 lines 59-64 as "evaluation criteria". If the VC meets the criteria then the associated VCID is inserted into the TIME SLOT RING per Fig 1. It is within the level of one skilled in the art to implement all of the limitations of claim 18 in software or executable instructions. It would have been obvious to one of ordinary skill in the art at the time of the invention to store the executable instructions on a computer readable medium or machine readable medium so that can be executed in a processor)

Referring to **Claim 19**, Nguyen et. al. teaches : An apparatus (Fig 1) comprising:

A virtual connection calendaring unit for calendaring a plurality of virtual connections for processing, each virtual connection calendared to a particular time period such that the virtual connections are not calendared to at least one time period (The scheduler or virtual connection

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calendar unit schedules or calendars by inserting VCID into the TIME SLOT RING per Fig 1 wherein the connections apply to different time periods)

A virtual connection address storage unit for storing a plurality of virtual connection addresses in a cache memory (The applicant broadly claims "cache memory". The examiner interprets that the VCIDs stored into the TIME SLOT RING which performs the same function as a cache memory per Fig 1 or virtual connection address storage unit)

A virtual connection processing unit to process a virtual connection corresponding to one of the plurality of virtual connection addresses during one of the at least one time period (The processor per Fig 1 or virtual connection processing unit controls which VCIDs are used to process the VCs via pointers to VC TABLE per Fig 1. Each representing a different time period.)

Nguyen does not expressly call for: calendaring but teaches scheduling

It would have been obvious to one of ordinary skill in the art at the time of the invention that scheduling performs the same function as calendaring.

**In Addition Nguyen teaches:**

Regarding **Claim 20**, wherein the most recent processed calendared virtual connections is stored in the cache memory (The most recently scheduled VCID associated with the VC is inserted in the TIME SLOT RING which performs the same function as the cache memory per Fig 1)

Regarding **Claim 21**, wherein virtual connections corresponding to the virtual connection addresses stored in the cache memory are processed in a round robin fashion (The TIME SLOT Ring processes VCID or virtual connections in a round robin fashion per Fig 1)

Regarding **Claim 22**, further comprising: an evaluation unit for evaluating the processed calendared virtual connection such that if the processed calendared virtual connection meets evaluation criteria the address of the processed calendared virtual connection is added to the cache memory: (The applicant broadly claims "evaluation criteria". The examiner interprets that the scheduler or evaluation unit determines or evaluates whether a VC qualifies for a time slot per Col. 2 lines 59-64 as "evaluation criteria". )

Regarding **Claim 24**, wherein the address of a processed calendared virtual connection meeting the evaluation criteria is stored in a first cache memory (The applicant broadly claims "evaluation criteria". The examiner interprets that the scheduler determines or evaluates whether a VC qualifies for a time slot per Col. 2 lines 59-64 as "evaluation criteria". If the VC meets the criteria then the associated VCID is inserted into the TIME SLOT RING per Fig 1)

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### ***Claim Objections***

**5.0**     **Claims 5, 11, 17, & 23** objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The present invention is directed to a device in which there is an evaluation criteria to determine the address of the processed calendared virtual connection is currently not in the cache memory, whether the virtual connection has more data to transmit, and whether the recipient can receive more data.

The closest prior art is Nguyen et. al. (U.S. Patent No: 5,712,815) and Hayter et. al. (U.S. Patent No.: 5,734,650). Nguyen et. al. teaches a device whose evaluation criteria is whether a time slot is available. Hayter teaches a device which schedules ATM cells a calendar queue based upon PCR and SCR.

The closest prior art is Nguyen et. al. (U.S. Patent No: 5,712,815) and Hayter et. al. (U.S. Patent No.: 5,734,650) either singularly or in combination do not anticipate or render the following claim limitation obvious when rewritten in independent form including all limitations of the base claim and any intervening claims:

Wherein evaluating comprises : determining that the address of the processed calendared virtual connection is not currently in the cache memory....determining that a recipient can receive more data as claimed in **Claim 5, 11, 17, & 23**.

### ***Conclusion***

**6.0**     Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert W Wilson whose telephone number is (703) 305-4102.

The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas Olms can be reached on (703) 305-4703. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.



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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.



Robert W Wilson  
Examiner  
Art Unit 2661

July 15, 2004  
RWW



DANSTON  
FEBRUARY 2004